

Biodiversity: The Past

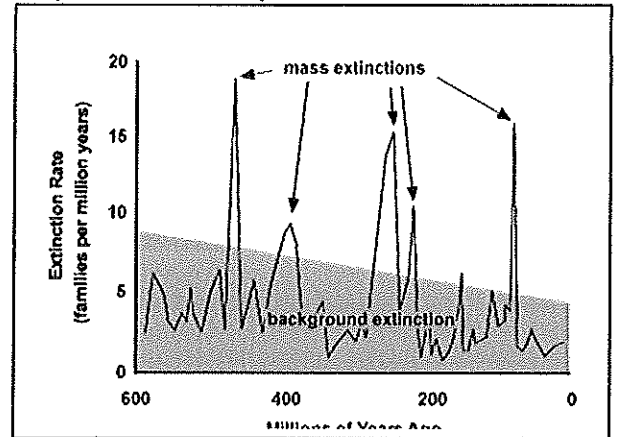
4.2.3 Discuss current estimates of numbers of species and past and present rates of species extinction

→ Background Extinction:

The natural rate of extinction.
• Slow & over long time

→ Mass Extinction: Lots of species die out
@ one time

• fast & lots of organisms
• 5 in past + 1 current

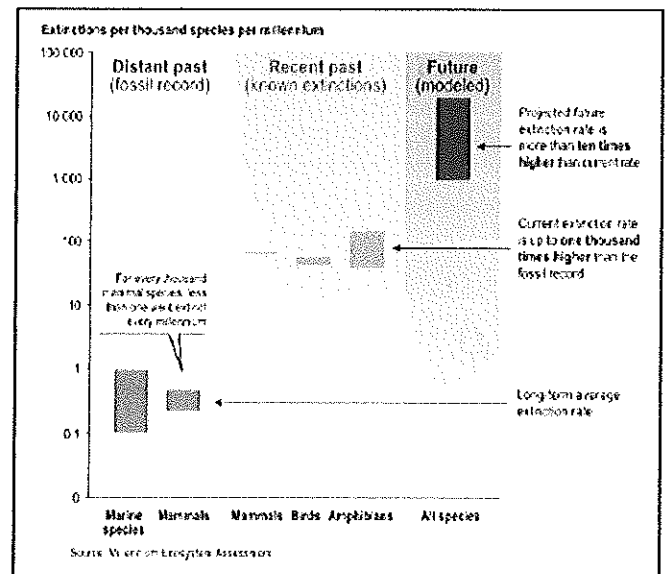


The Past: ~500 million spp. throughout history (est. from fossils) ← Not all orgs leave fossils!

↳ extinction rate: 1 spp/1000 yrs.
SLOW

↳ 5 Mass Extinction Events all caused by natural events.
(meteors, volcanoes, ice age)

* Extinction of an organism leaves an open niche & new spp. evolve to fill it



Current: 7-11 million spp. on planet. Only some identified.

↳ extinction Rate - 40-100 spp/day (estimate - some spp. die out before they are identified)

↳ Currently in 6 Mass Extinction → CAUSED BY HUMANS

↓
"HIPPO"

habitat loss
invasive species
population growth
pollution
over-harvesting

4.1.1 Define the terms biodiversity, genetic diversity, species diversity, and habitat diversity (pg. 99-100)

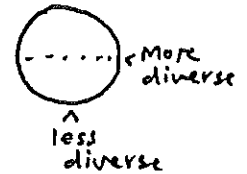
2.3.4 Define the term diversity

→ diversity: # of different spp. & the #s of individuals of each spp.

→ biodiversity: Made of 3 components → genetic, species, & habitat diversity.
* More diverse = More stable

→ genetic diversity: Range of genetic material in a population (gene pool).

Small populations have ↓ genetic diversity



→ species diversity: How many spp. & how many of each in an area.

* The spread of individuals of different spp. is more important than the total # of spp. in a habitat → for example. 100 potatoes Not as stable as 20 potatoes, 5 carrots, + 10 tomatoes
→ Rainforests + coral reefs ↑ spp. div.

→ habitat diversity:

of different habitats in an area.

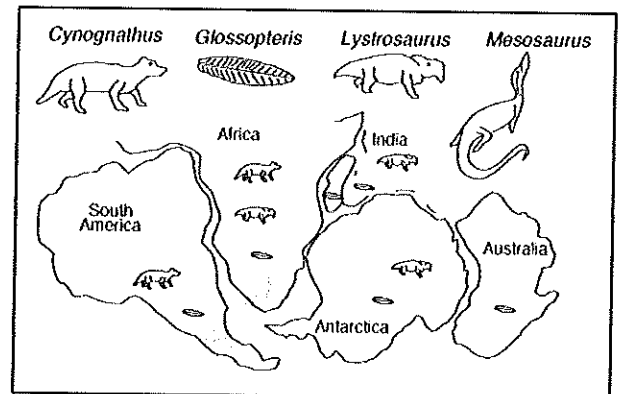
→ Rainforests + coral reefs ↑ spp. div.

4.1.4 Explain how plate activity has influences evolution and biodiversity

• when plates are adjacent or land bridges → organisms can migrate

↓
When plates separate the organisms evolve to deal with new environments.

↳ see notes over
Allopatric Speciation
↑



• @ Plate Boundaries where there is Uplift → Mountains form.

transform → Can lead to breaks in land after earthquakes → Allopatric Speciation

• As plates Move New Conditions cause new environments